

**REMARKS**

Claims 1-6, 8-13, 15 and 16 are pending in this application. By this Amendment, claims 5 and 6 are amended. No new matter is added by these amendments, as allowable claims 5 and 6 are rewritten in independent form. Reconsideration of the application based upon the above amendments and the following remarks is respectfully requested.

Entry of the amendments is proper under 37 CFR §1.116 since the amendments: (a) place the application in condition for allowance for the reasons discussed herein; (b) do not raise any new issue requiring further search and/or consideration as the amendments amplify issues previously discussed throughout prosecution; and (c) place the application in better form for appeal, should an appeal be necessary. The amendments are necessary and were not earlier presented because they are made in response to arguments raised in the final rejection. Entry of the amendments is thus respectfully requested.

The Office Action, in paragraph 8, indicates that claims 5, 6, 12 and 13 recite allowable subject matter. These claims would be allowable if rewritten in independent form including all of the features of the base claim and any intervening claims. Applicants appreciate this indication of allowability, and base the amendments to claims 5 and 6 on this indication. Specifically, claims 5 and 6 are rewritten in independent form incorporating the subject matter of claim 1, from which claims 5 and 6 depend, into claims 5 and 6. The Office Action does not address any specific rejection of claim 8. Applicants presume that claim 8 is allowable.

The Office Action, in paragraphs 4-7, rejects claims 1-4, 9-11, 15 and 16 under combinations of U.S. Patent No. 5,076,593 to Sullivan et al. (hereinafter "Sullivan"), and GB 1050021 to Melvin, alone or in combination with U.S. Patent Nos. 6,274,665 to Ono et al. (hereinafter "Ono"), 6,642,291 to Chino et al. (hereinafter "Chino") and 5,252,659 to Koizumi et al. (hereinafter "Koizumi"). The Applicants respectfully traverse these rejections.

The Office Action concedes that Sullivan does not teach the exact composition of the seal, in particular a piston seal formed of ethylene propylene rubber composition comprising at least 100 parts carbon black per hundred parts rubber, as is positively recited, among other features, in independent claim 1. The Office Action asserts that Melvin overcomes this deficiency of Sullivan, in that Melvin is alleged to teach the above-quoted specific composition, as positively recited in independent claim 1. The Office Action goes on to assert that Melvin contains no hydrocarbon oil, thereby broadly interpreting Melvin as "having no process oil." The Office Action states "Melvin teaches these compositions having both good sealing properties and resistance to weathering, and subsequently a good resistance to wear, see page 1, lines 40-47." The Office Action concludes that it would have been obvious to one having ordinary skill in the art to have provided the brake assembly of Sullivan, as taught by Melvin, in order to provide a brake assembly with a seal having good sealing properties as well as resistance to wear, thus effectively increasing the life expectancy of the brake assembly. This analysis of the Office Action is incorrect, for at least the reasons that the Office Action improperly combines Sullivan and Melvin, as discussed below.

Melvin teaches a synthetic rubber (sealing strips) for mounting windows and windscreens. Specifically, Melvin teaches strips of rubbery material that provide a resilient seal between a glass panel and a frame carrying the glass panel (col. 1, lines 9-17). Melvin is silent regarding any aspect of the sealing strip being slidably mounted. The windows, as taught by Melvin, are fixedly attached to a frame, *i.e.*, windshields, rear windows and side panel windows. Melvin addresses the problem that sealing strips made of natural rubber break down under adverse weather conditions, resulting in cracking. Thus, a person having ordinary skill in the art would not have looked to Melvin for a piston seal that is slidably mounted in a brake assembly.

Applicants submit that the Office Action fails to make a *prima facie* case of obviousness with respect to the piston seal fluid-tightly and slidably maintains a piston in a cylinder bore. MPEP §2142 states, "[t]he Examiner bears the initial burden of factually supporting any *prima facie* conclusion of obviousness." Additionally, §2142 states, "[t]o establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations." Applicants submit that this standard is not met, as discussed below.

The Federal Circuit stated, Section 103 requires assessment of the invention as a whole. This "as a whole" assessment of the invention requires a showing that one of ordinary skill in the art, when confronted by the same problems as the inventor and with no knowledge of the claimed invention, would have selected the various elements from the prior art and combined them in the claimed manner. In other words, §103 requires some suggestion or motivation, before the invention itself, to make the new combination. *See In re Rouffet*, 149 F.3d 1350, 1355-56 (Fed. Cir. 1998); *Princeton Biochemicals, Inc., v. Beckman Coulter, Inc.*, 75 USPQ2D 1051, 1054 (Fed. Cir. 2005).

In this case, one of ordinary skill, confronted by the same problem as the inventor, *i.e.*, among other objectives to provide a piston seal in which thermal expansion caused by an increase in temperature is reduced and/or a piston seal in which a decrease in the modules of elasticity, caused by an increase in temperature is reduced, would not look to a fixedly attached rubber seal for sealing a window that is not subject to the same heating issues to improve a piston in a cylinder. Melvin does not teach, nor would it have suggested, wear resistance of the seal strip when exposed to elevated temperatures and/or high speed

repetitious movement. One of ordinary skill in the art would understand that a fixedly attached seal optimized for exposure to adverse weather would not be a contributing element with respect to a seal of a heat resistant piston in a cylinder bore.

Additionally, with respect to the specific feature recited in claim 16 that Melvin may reasonably be considered to teach, or even to have suggested, a feature wherein rubber composition includes no process oil, as is positively asserted in the Office Action. This analysis likewise fails for the following reasons. The Office Action states "in addition, oil extended terpolymer example contains no hydrocarbon oil and is broadly interpreted as having no process oil." This conclusion ignores the positive recitations in Melvin which alternatively assert "these terpolymers may either be manufactured to have a moderate molecular weight and used as such, or they may be manufactured to have a considerably higher molecular weight and extended with oil to give a so-called oil extended rubber" (col. 2, lines 54-60); and "[s]one hydrocarbon oil will also normally be included. In the case of a terpolymer which is not already oil extended, a typical general formulation will be:" (col. 2, lines 78-82, introducing the tables that the Office Action cites at the top of page 2 of the Melvin disclosure). Based on these disclosures, it appears that a process oil will always be present in the application disclosed in Melvin. As such, Melvin cannot reasonably be considered to suggest a feature "wherein the rubber composition includes no process oil" as is positively recited in claim 16.

For at least the above reasons, the applied prior art references are not combinable in the manner suggested and therefore cannot reasonably be considered to have suggested, the combinations of all of the features recited in at least independent claim 1 and dependent claim 16. Further, because none of Ono, Chino or Koizumi are applied in a manner which would overcome the above-identified shortfalls in the application of the combination of Sullivan and Melvin to the subject matter of independent claim 1, claims 2-4, 9-11 and 15 would also not

have been suggested by the applied prior art references for at least the respective dependence of these claims directly or indirectly on an allowable independent claim 1, as well as for the separately patentable subject matter that each of these claims recites.

Accordingly, reconsideration and withdrawal of the rejections of claims 1-4, 9-11, 15 and 16 under 35 U.S.C. §103(a) as being unpatentable over the varying combinations of applied prior art references are respectfully requested.

In view of the foregoing, it is respectfully submitted that this application is in condition for allowance. Favorable reconsideration and prompt allowance of claims 1-4, 9-11, 15 and 16, in addition to allowable claims 5, 6, 8, 12 and 13, are earnestly solicited.

Should the Examiner believe that anything further would be desirable in order to place this application in even better condition for allowance, the Examiner is invited to contact the undersigned at the telephone number set forth below.

Respectfully submitted,



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